



REC'D 09 SEP 2003	
WIPO	PCT

**PRIORITY
DOCUMENT**
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

Patent Office
Canberra

I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND
SALES hereby certify that annexed is a true copy of the Complete specification
in connection with Application No. 2002300482 for a patent by CRALE REECE
as filed on 09 August 2002.

BEST AVAILABLE COPY



WITNESS my hand this
Thirteenth day of August 2003

JULIE BILLINGSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES

**A FAN CONTAINING APPARATUS TO BETTER DISTRIBUTE AN INSECT
REPELLANT OR FRAGRANCE
FIELD OF THE INVENTION**

5 This invention is directed to a fan containing apparatus (typically
in the form of a small box) which can better distribute the smoke from a
mosquito coil/candle etc or which can better distribute the vapour from a
vaporiser. In a broad form, the invention is directed to a fan containing
apparatus which can better distribute any type of beneficial vapour/smoke/gas
etc.

10

BACKGROUND ART

A very common way to deter or repel mosquitoes and biting
insects is to place a mosquito coil, or a mosquito candle in the area where the
deterrent effect is required. The smoke from the mosquito coil and the
vapours from the mosquito candle provides a deterrent to biting insects. A
15 disadvantage with these coils and candles is that the effective deterrent area
is not very large. If the mosquito coil or candle is placed in a closed room, it
is found that the greatest deterrent occurs above the coil or candle as the
smoke/vapours tend to move upwardly. Conversely, if the mosquito coil or
candle is placed outside, a breeze will tend to blow the smoke/vapour away
20 from the deterrent area.

With mosquitoes, it is noticed that mosquitoes tend to
congregate in certain areas. In a room, it is noticed that mosquitoes tend to
congregate about the corners of the room. However, the smoke from the
mosquito coil or the vapour from a mosquito candle does not effectively
25 extend into this area.

Many types of vaporising devices are known. One common type
of vaporising device is electrically operated and can be plugged into a power
socket. The device contains a small reservoir of liquid repellent/fragrance etc
and contains a small heating device which heats the liquid or a proportion of
30 liquid. Again, a disadvantage with this device is that the treatment area is not
very large. To properly deodorise an entire room, or to provide a repelling
action in an entire room, it takes a long time before the vapours/smoke
extend throughout the room.

It will be clearly understood that, if a prior art publication is referred to herein, this reference does not constitute an admission that the publication forms part of the common general knowledge in the art in Australia or in any other country.

5

OBJECT OF THE INVENTION

The present invention is directed to a simple yet extremely useful device or apparatus which contains a fan and which can assist in dispersing the smoke from a mosquito coil, the vapour from a mosquito candle, the vapour from a vaporiser etc in a more efficient manner.

10

It is an object of the invention to provide an apparatus which may overcome at least some of the above-mentioned disadvantages and/or provide the public with a useful or commercial choice.

In one form, the invention resides in an apparatus, the apparatus having a first enclosure adapted to contain a mosquito coil/candle/vaporising device, an inlet to allow air to pass into the first enclosure, a fan enclosure which has an inlet and an outlet, a fan, the inlet of the fan enclosure being in communication with the first enclosure, and the outlet of the fan enclosure being in communication with the outside of the apparatus.

20

In this manner, a commercially available mosquito coil or mosquito candle can be lit and placed in the first enclosure. The fan can then be started which will suck smoke containing air through the inlet of the fan enclosure and out the outlet of the fan enclosure to blow the smoke containing air more vigorously into a room/outside area etc.. There is no need to provide a complicated system to produce the smoke/vapour as the apparatus allows a conventional mosquito coil, mosquito candle etc to be used.

25

In an extremely broad form, the invention can comprise an apparatus having a single enclosure in which the mosquito coil etc can be placed. A fan can blow air through the enclosure and through an outlet to direct smoke laden air to a desired area. The fan can be placed in the enclosure, next to the enclosure etc. The fan can be reversed such that the air can be sucked through the enclosure from the outlet and through the inlet.

30

Other changes and modifications are envisaged.

The apparatus is typically box shaped in configuration and small enough to be placed on the ground, on a shelf, on a stand etc. However, there is no need for the apparatus to be box shaped and other types of shapes are envisaged. However, the apparatus will typically have a top wall, a bottom wall, a rear-wall, sidewalls and a front wall. The first enclosure should be large enough to accommodate the mosquito coil etc which is to be placed in the enclosure. The size of this can vary to suit. The enclosure typically has an air inlet to allow air to pass into the enclosure. The air inlet may comprise a series of perforations in one or more walls of the enclosure, although other arrangements are envisaged.

The first enclosure is typically provided with some form of door/flap or other type of access means to allow the mosquito coil etc to be placed into the first enclosure. Typically, a side wall of the apparatus is hinged to provide a door. It is preferred that one side wall is hinged by a top horizontal hinged which means that the door will naturally fall to a closed position. This allows the apparatus to be simple in design.

It is preferred that the air inlet comprises one or more apertures in the door. Thus, the door can be seen as a vented door.

It is preferred that the first enclosure is made of heat resistant material. This minimises any chance of damage to the first enclosure by virtue of a mosquito candle, a lit mosquito coil etc.

The apparatus has a fan enclosure. The fan enclosure typically comprises a shroud about a fan, the shroud having an inlet and an outlet. Other types of arrangements are envisaged however it is preferred that the design of the fan and fan enclosure is such that there is little mixing of incoming air and exiting air as the function of the fan is to blow the smoke/vapour laden air out of the apparatus.

The fan enclosure may be formed in a second enclosure of the apparatus. The second enclosure may be separated from the first enclosure and this can be achieved using a partition wall and the like. This arrangement can prevent damage to the fan.

The inlet of the fan enclosure is in communication with the first

enclosure. Typically, the fan enclosure is attached to one wall of the first enclosure, and an opening is provided in the wall to allow air to pass into the inlet of the fan enclosure. If desired, a screen, filter etc may be provided.

5 The outlet of the fan enclosure communicates with the outside
of the apparatus. In a simple form the outlet may communicate with or be
part of a tube, conduit, or other type of enclosure which funnels the air
passing through the outlet towards an outlet in the apparatus. The outlet in
the apparatus may comprise a valve or other type of opening. The advantage
of this arrangement is that a flexible hose can be attached to the outlet. The
10 hose may be perforated and blocked at the end to force the mosquito coil
smoke etc to pass through the perforations in the hose. The hose may be
several metres long and may be placed wherever necessary in a room or an
outdoor area to provide a much greater repellent action than would be
possible with a single mosquito coil or even a number of mosquito coils.
15 Thus, one advantage of the apparatus is that a single mosquito coil/mosquito
candle can be as effective in a larger area which previously would require a
large number of candles/coils etc. Moreover, by using the flexible hose the
repellent smoke/vapour etc can be channelled to precisely where needed.

Alternatively, the apparatus may be provided with a second
20 enclosure/third enclosure and like which may be provided with an open top, a
elongate slot etc to allow smoke/vapour to pass from the apparatus. While
this arrangement does not contain a flexible hose, it will still disperse the
smoke/vapour more efficiently.

The fan may be electrically powered. In one form of the
25 invention, the fan may be powered by a battery. In another form of the
invention, the fan may be powered by a rechargeable battery and the battery
can be recharged from a power source using conventional techniques. In
another form, the fan may be powered from a vehicle cigarette lighter socket,
or mains power. It is envisaged that the fan may also be solar powered. It is
30 envisaged that the fan may be a variable speed fan and some form of control
knob etc can be provided to adjust the rotational speed of the fan. The fan
may be controlled by an on/off switch or by any other suitable means.

The apparatus need not be limited to use with a mosquito coil,

- mosquito candle or any other product which is lit or burnt to provide the repellent action. For instance, the apparatus is sufficiently versatile to enable it to be used with a vaporising device. A typical well-known vaporising device plugs into a power socket. Therefore, the apparatus may be provided with a power socket in the first enclosure to enable a conventional vaporising device to be simply plugged into the socket in the first enclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention will be described with reference to the following drawings in which :

- 10 Figure 1. Illustrates an apparatus for use with a mosquito coil/mosquito candle etc.
- Figure 2. Illustrates an apparatus for use with a plug in vaporiser.

BEST MODE

- Referring to the drawings and initially to figure 1 there is illustrated an apparatus 10 which can better disperse a repellent/fragrance/deodorising composition etc in a particular area. The apparatus 10 is substantially box like and can have a length of between 20-60 cm, a width of between 10-40 cm and a height of between 10-30 cm. These dimensions can of course vary to suit. The apparatus can be made of any suitable material but it is preferred that the material is substantially waterproof (to allow the apparatus to be used outdoors) and fireproof (to allow a mosquito candle etc. to be placed in the apparatus). Thus, the material may comprise metal, fibro and the like.

- The apparatus has a top wall, a bottom wall, a rear wall, a pair of closed sidewalls, and a front wall, these walls being substantially continuous and attached to form a substantially enclosed container. However, the front wall comprises a door 11. Door 11 is hinged at the top by a horizontal hinge 12 which allows the door to naturally fall into a closed position allowing the door to have a very simple yet effective design. However, the door can also be hinged by a bottom hinge, a side hinge, can be a sliding door, a clip on door or any other type of door.

The door forms one side of a first enclosure 13. The first enclosure 13 is large enough to hold a mosquito coil/mosquito candle or any

other device which is to be placed within the first enclosure. The first enclosure is defined by part of the top wall, part of the bottom wall, and part of each side wall as well as the door 11. In the particular embodiment, the rear wall does not form part of the first enclosure. Door 11 is provided with an array of vent openings 14 to allow air to pass into the first enclosure. While this is a simple arrangement, the invention is not to be limited to this particular type of air inlet to the first enclosure.

The first enclosure 13 is also defined by an intermediate partition wall 15. Wall 15 is provided with an opening which forms part of the inlet to the fan enclosure 16. The partition wall 15 is spaced from rear wall 17 to form a second area 18 which is separated from the first enclosure 13.

The second area 18 contains the fan enclosure 16. The fan enclosure 16 is a cylindrical shroud which passes about the fan. The enclosure 16 has a fan inlet which extends into the first enclosure 13, and a fan outlet which comprises a tapering tube 19 which tapers to an outlet 20 passing through a side wall of the container. The outlet 20 allows a flexible perforated hose 21 to be attached to the outlet. The hose 21 can have any suitable length and diameter and allows the exhaust from the fan (containing the mosquito smoke etc) to be dispersed to any suitable area simply by positioning the perforated hose in that area. This provides a real and substantial advantage over other devices.

The fan can be powered either by a 12 volt power source (typically a vehicle cigarette lighter) or by a transformer to transform mains power into a lower voltage. In the embodiment, a power socket 22 is provided on one side wall into which the cigarette lighter attachment can plug or into which the transformer can plug, providing versatility to the apparatus.

When camping, the apparatus can be placed next to a campsite and can be powered by the cigarette lighter attachment in a vehicle. The flexible hose 21 can be positioned around the area which is to be protected. In a house, the apparatus can be placed on the ground or anywhere else and the flexible hose can be placed against the wall of the room as an extremely efficient and effective deterrent. It is also found that use of the fan provides better burning of a mosquito coil by providing a continual draft of air to assist

in the burning action. This again adds to the efficiency of the apparatus.

Referring to figure 2, there is described an apparatus which is similar to the apparatus of figure 1 except that one wall of the first enclosure 13 is provided with a socket 25 to enable a plug in vaporiser 26 to be simply plugged into the socket 25 inside enclosure 13. A fan 27 can then be operated to suck air through the first enclosure in a manner similar to that described above. In this arrangement another compartment 28 is provided. This compartment can contain the rear portion of socket 25 and can be electrically insulated from the remainder of the container.

10 It should be appreciated that various other changes and modifications can be made to any embodiment described without departing from the spirit and scope of the invention.

CLAIMS:

1. An apparatus having a first enclosure adapted to contain a mosquito coil/candle/vaporising device, an inlet to allow air to pass into the first enclosure, a fan enclosure which has an inlet and an outlet, a fan in the fan enclosure, the inlet of the fan enclosure being in communication with the first enclosure, and the outlet of the fan enclosure being in communication either directly or indirectly with the outside of the apparatus.
2. The apparatus of claim 1, wherein the first enclosure is provided with a door.
- 10 3. The apparatus as claimed in claim 2, wherein the inlet comprises at least one opening in the door.
4. The apparatus as claimed in any one of the preceding claims, wherein the fan enclosure comprises a shroud extending about the fan.
5. The apparatus as claimed in any one of the preceding claims, comprising a second enclosure which is separate from the first enclosure, the second enclosure containing the fan.
- 15 6. The apparatus as claimed in claim 5, wherein the inlet to the fan enclosure comprises an opening in a partition which separates the second enclosure from the first enclosure .
- 20 7. The apparatus as claimed in claim 6, wherein the partition comprises a dividing wall.
8. The apparatus as claimed in any one of the preceding claims, wherein the outlet of the fan enclosure comprises a tapering enclosed portion which tapers towards an outlet in a wall of the apparatus.
- 25 9. The apparatus as claimed in claim 8 comprising a flexible hose operatively associated with the outlet, the hose containing at least one opening.
10. The apparatus as claimed in any one of claims 1-8, comprising a flexible hose operatively associated with the outlet of the fan enclosure, the flexible hose containing at least one opening.
- 30 11. The apparatus as claimed in claim 9 or claim 10 wherein the flexible hose is perforated.
12. The apparatus as claimed in any one of the preceding claims,

wherein a wall of the apparatus is provided with a power socket to allow an electrical power supply to power the fan.

13. The apparatus as claimed in claim 1, wherein the first enclosure is provided with a power socket to allow a plug in vaporiser to plug into the power socket.

14. The apparatus as claimed in any one of the preceding claims, wherein a mosquito coil is placed in the first enclosure.

15. The apparatus as claimed in any one of claims 1-13, wherein a mosquito candle is placed in the first enclosure.

16. The apparatus as claimed in any one of claims 1-13, wherein a deodorising agent is placed in the first enclosure.

17. The apparatus as claimed in any one of claims 1-13, wherein a fragrance emitting agent is placed in the first enclosure.

18. An apparatus substantially as hereinbefore described with reference to the accompanying drawings.

Dated this 9th day of August 2002

Crale Reece

By his Patent Attorneys

CULLEN & CO.

ABSTRACT

A fan containing apparatus has a first enclosure which can accommodate a conventional mosquito coil/mosquito candle/vaporising device etc. The smoke/vapours are blown by the fan through an outlet in the
5 apparatus to provide a much better distribution of the gas/smoke/vapour into a room. A perforated hose can be attached to the outlet to provide a much better positioning of the gas/smoke/vapour in a room or outdoor area.

• • • • •

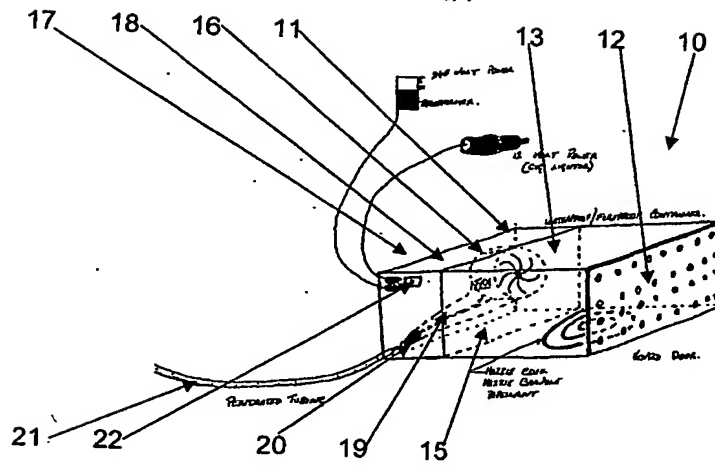


FIG 1

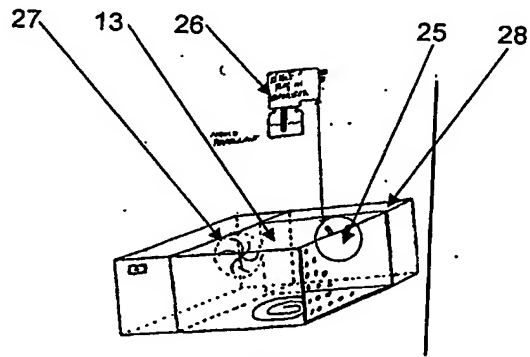


FIG 2

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☒ **BLACK BORDERS**

☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**

☐ **FADED TEXT OR DRAWING**

☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**

☐ **SKEWED/SLANTED IMAGES**

☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**

☐ **GRAY SCALE DOCUMENTS**

☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**

☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**

☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.